CLAIMS

1. An image processing apparatus operable to reproduce pixels representative of a colour image from groups of colour component signal samples representing the image, each of said groups representing two of said pixels and comprising two input luminance values, one for each pixel, and first and second input chrominance values formed by averaging first and second chromincance values for each pixel, said apparatus comprising

a de-compressing processor operable to receive said groups of colour component signal samples and to generate reproduced pixels, each comprising three colour component values, and

a detail detection processor operable to detect whether one of said first and second pixels is representative of substantially white or substantially black and the other of said pixels is not representative of substantially white or substantially black, and if so, arranging for said de-compressing processor

to assign to first and second chrominance values for one of said first and second pixels representing substantially white or black the value of zero,

to assign to first and second chrominance values for the other of said first and second pixels, not representing substantially white or black, twice the value of the first and second input chrominance values respectively, and

to reproduce the three colour components of each pixel from the corresponding input luminance value and the assigned first and second chrominance values, and otherwise

to reproduce the three colour components of each pixel from the corresponding input luminance value in combination with the first and second input chrominance values.

2. An image processing apparatus as claimed in Claim 1, wherein said detail detection processor is operable to compare first and second input luminance values of each group with white and black threshold values, each representative of substantially white and substantially black luminance values respectively and to determine whether one of said pixels is representative of substantially white or

substantially black and the other of said pixels is not representative of substantially white or substantially black, in accordance with the result of the comparison.

3. An image processing apparatus as claimed in Claim 2, wherein the comparison performed by said detail detection processor comprises

determining whether said first input luminance value exceeds said white threshold value or said first input luminance value is less than said black threshold value, and determining whether said second input luminance value exceeds said white threshold value or said second input luminance value is less than said black threshold value.

4. A colour processor operable to process input pixels, each comprising three colour component signal samples, to produce output colour component signal samples, said colour processor being operable to receive first and second input pixels and to generate from each said pixel a corresponding luminance value from the corresponding three colour component samples of each pixel respectively, and

to form first and second output chrominance values from said first and second input pixels by calculating from each of the colour components of each pixel first and second chrominance values, and averaging the values of the first chrominance values for the first and second input pixels and averaging the second chrominance values for the first and second pixels, to produce said first and second output chrominance values respectively, said output colour component signal samples being formed for said first and second pixels from said corresponding luminance value for each pixel and said first and second output chrominance values.

5. A display device comprising a display, a display memory, a colour processor as claimed in Claim 4 and an image processing apparatus as claimed in Claim 1, 2 or 3, wherein input pixels representative of a colour image are fed to said colour processor and groups of signal samples representing said pixels produced by said colour processor are stored in said display memory, and said groups of signal samples are read out from said display memory and processed by said image

processing apparatus to generate reproduced pixels before being displayed by said display device.

6. A display device as claimed in Claim 5, wherein said display is a Liquid Crystal Display (LCD).

7. A display device as claimed in Claim 5 or 6, wherein reproduced pixels generated by said image processing apparatus are converted to analogue form by an analogue-to-digital converter for display on said LCD display.

8. A portable computing or communicating device having a display device according to Claim 5, 6 or 7.

9. A mobile radiotelephone having a display device as claimed in Claim 5, 6 or 7.

10. A signal representative of the pixels of an image as processed by the image processing apparatus according to Claim 1, 2 or 3, or the colour processor as claimed in Claim 4.

11. A data carrier bearing the signal as claimed in Claim 10.

12. A method of processing a colour image to reproduce pixels representative of the colour image from groups of colour component signal samples representing the image, each of said groups representing two of said pixels and comprising two input luminance values, one for each pixel, and first and second input chrominance values formed by averaging first and second chromincance values for each pixel, said method comprising

receiving one of said groups of signal samples representative of first and second pixels,

detecting whether one of said first and second pixels is representative of substantially white or substantially black and the other of said pixels is not representative of substantially white or substantially black, and if so

reproducing to first and second chrominance values for one of said first and second pixels representing substantially white or black the value of zero, and

reproducing to first and second chrominance values for the other of said first and second pixels the value of twice the value of the first and second input chrominance values respectively, and

generating three colour components for each of said first and second reproduced pixels from the input luminance values and the assigned chrominance values, and otherwise

generating three colour components of each of said first and second reproduced pixels from the corresponding input luminance value in combination with the first and second input chrominance values.

13. A method of processing input pixels representative of a colour image, each pixel comprising three colour component signal samples, to produce output colour component signal samples, said method comprising

receiving first and second input pixels and generating from each pixel a corresponding luminance value from the three colour component samples of the pixel, and

forming first and second output chrominance values for said first and second pixels by

calculating from each of the colour components of each pixel first and second chrominance values, and

averaging the value of the first chrominance values of the first and second pixels and averaging the second chrominance values of the first and second pixels, to produce said first and second output chrominance values respectively, said output colour component signal samples being formed for said first and second input pixels from said corresponding luminance values for each pixel and said first and second output chrominance values.